3.5 CULTURAL RESOURCES

3.5.1 Introduction

This analysis addresses the potential for the Species Conservation Habitat (SCH) Project to affect known cultural resources and also the potential to inadvertently uncover cultural resources during Project implementation. "Cultural resources" is a term used to describe prehistoric and historical archaeological sites; architecturally significant properties, such as buildings, bridges, and infrastructure; and resources of importance to Native Americans.

The study area for cultural resources (i.e., the Area of Potential Effects) includes all places where Project-related construction and operations activities would occur, particularly ground-disturbing Project activities. For the SCH Project, the study area/Area of Potential Effects is the same for both United States Army Corps of Engineers (Corps) and the California Natural Resources Agency. Most of the Project would be located within Corp's jurisdictional waters, but no aspects of the Project, including those located in upland areas, would be implemented in the absence of a Corps permit. Therefore, the entire Project area is within the scope of the Corps' analysis. The most sensitive areas for cultural resources are near current and historic watercourses and the current and historic shoreline.

Table 3.5-1 summarizes the impacts of the six Project alternatives on cultural resources, compared to both the existing conditions and the No Action Alternative.

Table 3.5-1 Summary of Impacts on Cultural Resources

Impact	Basis of Comparison	Project Alternative						Mitigation Measures
		1	2	3	4	5	6	
Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties.	Existing Condition	S	S	S	S	S	S	MM CR-1: Prepare and implement a survey plan and an inadvertent discovery plan
	No Action	S	S	S	S	S	S	Same as Existing Condition

Note:
O = No Impact
L = Less-than-Significant Impact
S = Significant Impact, but Mitigable to Less than Significant
U = Significant Unavoidable Impact
B = Beneficial Impact

3.5.2 Regulatory Requirements

3.5.2.1 Federal Requirements

National Historic Preservation Act

NHPA section 106 presents regulations regarding the identification and protection of cultural resources. Section 106 requires that Federal agencies take into account the effects of their undertakings on historic properties and afford the State Historic Preservation Officer, and, if appropriate, the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Federal undertakings include Federal projects, permits, grants, and loans. The purpose of section 106 is to avoid unnecessary impacts on historic properties from Federal undertakings. The section 106 process is

described in the ACHP regulations (36 CFR part 800, as amended August 5, 2004) and Corps regulations at 33 CFR part 325, Appendix C.

Historic properties include districts, archaeological sites, buildings, structures, or objects included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) (36 CFR sections 60.4, 60.6; 40 CFR section 1508.27, subdivision (b)(8)). The NRHP is an inventory of historic resources in the United States maintained by the Secretary of the Interior. Section 106 applies to all properties already listed on the NRHP, formally determined to be eligible for listing, and not formally determined to be eligible but that meet specific eligibility criteria.

The following criteria are used to evaluate properties for the NHPA (36 CFR section 60.4):

> The quality of significance in American history, architecture, archaeology, culture, and engineering is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:
>
> (a) Are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) Are associated with the lives of persons significant in our past; or
>
> (c) Embody the distinct characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) Have yielded, or may be likely to yield, information important in prehistory or history.

The types of cultural resources that may be determined eligible for inclusion on the NRHP include prehistoric or historic sites, buildings/structures, objects, Traditional Cultural Properties (TCP), and/or ethnographic landscapes. Guidance for determining the eligibility of prehistoric or historic sites, buildings/structures, or objects for inclusion on the NRHP is presented in National Register Bulletin 15 (2002). The TCP concept is presented in National Register Bulletin 38 (Parker and King 1998). A TCP is defined as property eligible for inclusion on the NRHP because of its association with cultural practices or beliefs of a living community that (a) are noted in that community's history and (b) are important in maintaining the continuity of the community (Parker and King 1998:1).

A cultural landscape is a geographic area, including both cultural and natural resources, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values (Birnbaum 1994). One of the types of cultural landscapes is an ethnographic landscape, which Birnbaum (1996:5) describes as "a landscape containing a variety of natural and cultural resources that associated people define as heritage resources." Examples are contemporary settlements, sacred religious sites, and massive geological features. Small plant communities, animals, subsistence, and ceremonial grounds are often components.

The evidence of human activity associated with cultural landscapes is examined through 11 landscape characteristics, which are land uses and activities, patterns of spatial organization, responses to the natural environment, cultural traditions, circulation networks, boundary demarcations, vegetation related to land use, buildings/structures/objects, clusters, archaeological sites, and small-scale elements.

The section 106 review process generally involves the following steps:

- **Step 1: Identify and Evaluate Historic Properties.** The Federal agency identifies and evaluates historic properties that could be affected by the Federal undertaking. Information is developed by literature review, consultation with the California State Historic Preservation Officer (SHPO), and field investigations (as necessary). The eligibility of potentially affected properties for inclusion on the NRHP is assessed.
- **Step 2: Assess Effects.** The effects of the undertaking are evaluated, resulting in a determination of either "no effect," "no adverse effect," or "adverse effect." The SHPO is then consulted.
- **Step 3: Consultation.** If an adverse effect could occur, the SHPO is consulted in order to identify methods to reduce the impacts. Other entities may be consulted, including Native Americans, the public, local government, and the ACHP. Consultation results in the development of a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) that describes agreed upon measures to mitigate adverse effects.
- **Step 4: Filing MOA or PA with ACHP.** Upon execution of the MOA or PA, the agreement is filed with the ACHP if the ACHP did not participate in developing the MOA or PA.
- **Step 5: Proceed with Undertaking.** The Federal agency proceeds with its undertaking under the terms of the MOA or PA.

Archeological and Historic Preservation Act of 1974 (16 USC 469-469c-1)

If a project will affect historic properties that have archeological value, the Archeological and Historic Preservation Act may impose requirements on an agency to protect historic properties. The purpose of this act is "to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance." However, the Act also addresses activities conducted under Federal permits including any alteration of the terrain.

3.5.2.2 State Requirements

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code (PRC) section 21084.1, a "project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

"Historical resource" is a term with a defined statutory meaning (PRC section 21084.1 and CEQA Guidelines section 15064.5 [a], [b]). The term embraces any resource listed in or determined to be eligible for listing on the CRHR. The CRHR includes resources listed on or formally determined eligible for listing on the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC section 5024.1 and California Code of Regulations (CCR) Title 14 section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or a preponderance of evidence indicates that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for list on the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process (PRC 5024.1 [g]), lead agencies have a responsibility to

evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC section 21084.1 and CEQA Guidelines section 15064.5 [a][3]). Following CEQA Guidelines section 21084.5, (a) and (b) a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

> Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
>
> Meets any of the following criteria:
>
> Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
>
> Is associated with the lives of persons important in our past;
>
> Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
>
> Has yielded, or may be likely to yield, information important in prehistory or history.

Archaeological resources may also qualify as "historical resources," and PRC 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on state-owned land.

For historic structures, CEQA Guidelines section 15064.5, subdivision (b)(3), indicates that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) shall mitigate impacts to a less-than-significant level. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact "unique archaeological resources." PRC section 21083.2, subdivision (g), states that "unique archaeological resources" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

> Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
>
> Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
>
> Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Treatment options under section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research. The technical advice series produced by this office strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities including, but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

California Health and Safety Code section 7050.5(b) specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in section 5097.98 of the Public Resources Code.

In addition, California Health and Safety Code section 8010-8011 established the California Native American Graves Protection and Repatriation Act. The state repatriation policy is consistent with and facilitates NAGPRA implementation. The act strives to ensure that all California Indian human remains and cultural items are treated with dignity and respect by encouraging voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. The act also provides a mechanism for aiding California Indian tribes, including non-Federally recognized tribes, in filing repatriation claims and obtaining responses to those claims.

CEQA Guidelines section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as identified by the NAHC. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to the accidental discovery of human remains, the CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to section 15064.5, subdivision (f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be

available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

3.5.3 Affected Environment

3.5.3.1 Prehistoric

The prehistory of the Southern California deserts spans at least the last 12,000 years and is usually characterized by four cultural and temporal periods. The prehistory of the Southern California deserts and the surrounding areas are discussed in detail by Wallace et al. (1962), Warren (1967), Bettinger and Taylor (1974), and Warren and Crabtree (1986). The work of these researchers is synthesized in the following discussion of regional archaeological cultures and chronologies.

The Paleoindian period (12,000–7,500 Before Present [BP]) represents the first documented Native American occupation of the region. This time period is highlighted by a transition from cool and moist conditions of the Late Pleistocene to the arid and hot conditions of the Early Holocene. Three distinct cultural complexes are associated with this time period: fluted point complexes, the Lake Mojave Complex, and the San Dieguito Complex. Fluted point complexes have been identified in Southern California deserts, but are primarily found in surface contexts that do not facilitate the recovery of data necessary to fully understand the culture and behaviors of the groups responsible for the manufacture of the fluted points. More data are available for the Lake Mojave and San Dieguito complexes. These two complexes are more common in the Project area than fluted point complexes and also share several key artifact types. Artifacts usually associated with these two complexes include crescents, scrapers, and large bifaces. The Lake Mojave complex is centered in the southwestern Great Basin, while the San Dieguito complex extends from coastal California to the Colorado Desert. San Dieguito sites in the Colorado Desert typically include cleared circles, rock rings, other rock features, and heavily varnished crude stone tools.

The Early Archaic Period (7,500–4,000 BP) was very hot and dry and is poorly represented in the Colorado Desert. Although reasons are not fully understood, it has been suggested that seasonal river flooding may have affected the numbers of sites dating to this time period. Regardless, neighboring regions provide data regarding the Archaic Period. In these areas, the Early Archaic Period is generally characterized by a diversification of artifact assemblages, including the introduction of groundstone technologies for seed processing. It is likely that these trends also occurred in the Lower Colorado Desert. Pinto, Gypsum, Silver Lake, and possibly concave base projectile points are associated with the Early Archaic Period.

The Middle Archaic Period (4,000–1,500 BP) is also poorly represented in the Colorado Desert. Climatic conditions became cooler and moister, and seed collecting and processing characterize economic pursuits during this time period. Artifacts typically associated with the Middle Archaic include manos, metates, handstones, and the bow and arrow, which appear in artifact assemblages towards the end of the time period.

The Late Archaic (1,500–450 BP) is characterized by Native American populations expanding their territories. During this time period, changes in the flow of the Colorado River into Lake Cahuilla expanded it and created a series of freshwater lakes around it. These changes facilitated the development of agriculture and semipermanent villages along the Lower Colorado River. At the same time as the development of agriculture, extensive trade networks were established to connect agricultural settlements in the greater Southwest with the Gulf of California and the Pacific Ocean.

Following the Late Archaic Period, Euroamerican exploration and contact with local Native Americans gradually increased across the region. Euroamerican activity in the area, as in other parts of California,

negatively affected Native American populations and culture. Euroamericans introduced new diseases, claimed Native American tribal territories for their uses, and relocated Native American groups to missions or areas beyond their traditional territories. These circumstances disrupted the cultural patterns of Native American groups and contributed to the decline of Native Americans and their cultures.

3.5.3.2 Ethnography

The territories of two Native American groups, Kumeyaay and Cahuilla, encompass the Salton Sea. Cahuilla territory primarily encompasses the northern half of the Salton Sea and Kumeyaay territory primarily encompasses the southern half of the Salton Sea. Consequently, the Project would be primarily in Kumeyaay territory, but is near Cahuilla territory. Indeed, the Torres Martinez Desert Cahuilla Indians currently occupy the Torres Martinez Indian Reservation, which is located at the northern end of the Salton Sea.

Kumeyaay

Kumeyaay inhabit the area currently encompassed by Imperial County, and comprise groups formerly identified as Tipai and Ipai (Carrico 1983; Cline 1979; Hedges 1975; Luomala 1978; Shipek 1991). Kumeyaay territory extends east nearly to Yuma, Arizona, southwest to Todos Santos Bay, west to the Pacific Ocean, and northwest to the San Luis Rey River and San Felipe Creek. Quechan and Cahuilla border Kumeyaay territory to the east and north, respectively.

The Kumeyaay language, formerly called Diegueño, is part of the Hokan stock of the Yuman language family (Langdon 1990). Kumeyaay were organized into autonomous tribelets under the control of a chief (kwaaypaay) who had at least one assistant (Luomala 1978; Shipek, 1991). The position of chief was inherited from father to eldest son. The chief directed ceremonies and resolved differences within the group. Kroeber (1925:712) suggests that Tipai and Ipai populations numbered approximately 3,000 at the time of contact, circa 1770–1790. Subsequent to contact, the Native American population decreased, and in 1821 Mission San Diego records document a population of 1,711, which would have included Kumeyaay (Luomala 1978).

Kumeyaay relied heavily on seasonally available vegetal foods on valley floors and in the foothills and mountains. In the spring, blossoms and buds were collected from blooming plants in the foothills. During the summer, cactus fruits, agave, and mesquite pods were collected in valleys. Small animals were hunted during both seasons. During the fall and winter months, Kumeyaay moved into the mountains seeking shelter and food. Rockshelters and overhangs provided shelter from winter rain and snow, and acorns, piñon nuts, and small game provided food.

Kumeyaay material culture includes seed-processing implements, such as the mortar and pestle and milling stones; baskets that were used for seed winnowing and storage; plain and decorated reddish-brown ceramic vessels that were used for both cooking and storing water; and the bow and arrow. Structures built by the Kumeyaay varied in form depending on the season. For example, summer residential structures often consisted only of a windbreak, while winter residential structures were semi-subterranean pit houses with a tie pole framework and brush thatch. Kumeyaay also built ceremonial structures, such as rock-supported brush fence circles, for events such as harvest dances (Luomala 1978; Shipek 1991).

Kumeyaay primarily interacted and traded among themselves, but did involve neighboring groups in certain trading activities. For example, coastal groups traded salt, dried seafood, and abalone shells with interior valley groups for gourds, acorns, agave, and mesquite pods. Kumeyaay also traded for granite to manufacture mortar and pestles, and Quechans traded with the Kumeyaay for acorns and acorn flour (Luomala 1978; Shipek 1991).

Cahuilla

Cahuilla territory encompasses an area from the summit of the San Bernardino Mountains in the north to Salton Sea and the Chocolate Mountains in the south that is bordered on the east by Orocopia Mountain and the west by Palomar Mountain (Bean 1978). The Cahuilla language belongs to the Cupan subgroup of the Takic family that is part of Uto-Aztecan stock (Bean 1978). Three major groups of Cahuilla, corresponding to geographic locations, have been identified within Cahuilla territory: Desert Cahuilla, Mountain Cahuilla, and Western or Pass Cahuilla (Kroeber 1925). Ethnographic sources documenting Cahuilla culture include Barrows (1900), Hooper (1920), Strong (1929), Kroeber (1925), H.C. James (1960), Bean (1964, 1972), and Bean and Lawton (1965).

Cahuilla lived in semipermanent villages generally located within canyons or on alluvial fans near water sources such as creeks or springs. Cahuilla were organized into clans and lineages that interacted for defense, communal subsistence activities, and rituals (Bean 1978). Lineage leadership was hereditary, being passed from father to son. In addition to lineage chiefs, shamans were also important and powerful individuals in Cahuilla society because of their ability to communicate with and influence the actions of supernatural forces. Each lineage owned a village, the territory immediately surrounding it, and specific resources. Regardless, most lineage territory was open to all Cahuillas. Cahuilla also established seasonal campsites across their territory to exploit seasonally available plant and animal resources (Bean 1978). Cahuilla constructed either dome-shaped or rectangular houses, with the size of the residence reflecting the needs of the family occupying it. Other typical structures built by Cahuilla include chief's houses, ceremonial houses, men's sweathouses, and acorn granaries.

Cahuilla exploited a wide variety of resources, including acorns, honey mesquite, screw beans, piñon nuts, cactus fruit, berries, tubers, roots, deer, rabbit, antelope, bighorn sheep, reptiles, quails, and ducks (Kroeber 1925; Bean 1978). Animals were hunted by individuals and also by the use of communal drives. Hunting implements included mesquite or willow bows and arrows, throwing sticks, and traps. Other material culture used by the Cahuilla includes baskets, coiled pottery, manos and metates, mortars and pestles, charm stones, and bull-roarers (Kroeber 1925; Bean 1978).

Disputes between Cahuilla and their neighbors were generally infrequent and related to access to or control over economic resources. Cahuilla usually interacted with their neighbors, particularly the Luiseño and Serrano, as trading partners. The Cocopa-Maricopa Trail, a prehistoric trade route, passes through the area, and some Cahuilla specialized as traders traveling as far as Santa Catalina in the west and the Gila River in the east (Bean 1978). Marine shell beads were used as a medium of exchange across Cahuilla territory and facilitated the acquisition of a variety of items across a wide area.

3.5.3.3 History

Spanish exploration of Southern California dates to the 1500s. Hernando de Alarcon discovered Alta California while sailing up the Colorado River in 1540 and was the first European to encounter the Quechan Indians (Hoover et al. 1990). The impact of 16th century exploration on the native peoples in the area, however, appears to have been relatively minimal. Spanish exploration of the area continued into the 18th century, and in 1775 Juan Batista de Anza volunteered to find an overland trail to connect Spanish settlements in Sonora, Mexico, with new missions on the California Coast (Beck and Haase 1974; Hoover et al. 1990). The trail opened by Anza was also used by later explorers, trappers, and argonauts. Subsequent to Anza's explorations, the Spanish attempted to establish missions in the area, but were generally unsuccessful. Two missions were built in 1780, but were destroyed a year later by hostile Yuma Indians dissatisfied with their treatment by the Spanish.

The Anza Trail across what is now Imperial County later became known as the Sonora Road, the Colorado Road, the Emigrant Trail, and the Butterfield Stage Route (Hoover et al. 1990). The Sonora

Road/Emigrant Trail was used from 1825 to 1865 for cattle drives from New Mexico and Texas to ranches in the Coastal Range (County of Imperial 1993). The Butterfield Stage also used this route until completion of the railroad across the region in 1878 (Zimmerman 1981).

Euroamerican contact with Native Americans increased across the area of the Southern California deserts in 1848 and 1849 as gold miners passed through the area along the Emigrant Trail. Indeed, construction of Yuma Crossing and the military fortification of Fort Yuma in 1852 were due to numerous hostile confrontations between Euroamericans and Native Americans in the area. Imperial Valley, however, did not attract many settlers until its agricultural potential was developed in the early 1900s. Irrigation of the valley was first suggested by Oliver Wozencraft and eventually accomplished by Charles R. Rockwood and George Chaffey in 1901 (Hoover et al. 1990). The introduction of irrigation in Imperial Valley spawned the development of both large- and small-scale agriculture and the establishment of many small towns. The area grew rapidly, and by 1907 nearly 15,000 people lived in Imperial Valley. Southern Pacific Railroad also built a branch line in the area in 1903 to handle the increased commercial export of agricultural products (Zimmerman 1981). At this time, Imperial Valley was officially incorporated as a jurisdiction separate from San Diego County.

Between 1905 and 1907, Imperial Valley was accidentally flooded due to a faulty canal gate. As a result, the Salton Basin was inundated and the Salton Sea was created. Subsequently, major improvements were made to the irrigation system to prevent future flooding. Imperial Irrigation District took control of the irrigation system in 1916, and by 1941 a more reliable and consistent water supply was assured for the area with the completion of the All American Canal. Currently, the All American Canal is a Reclamation facility for which the Imperial Irrigation District has operations and maintenance responsibility. Although agriculture still continues to be the predominant activity in Imperial Valley, other major industries are now becoming part of a wider economic base that includes geothermal energy development, mining, customs brokers, tourism, and the provision of essential regional and national facilities, such as correctional institutions and military training facilities (Zimmerman 1981).

3.5.3.4 Known Cultural Resources in the Study Area

The areas where ground disturbance could occur under each of the six Project alternatives is shown in Figure 2-2, which also shows land that is managed by the United States Fish and Wildlife Service as part of the Sonny Bono Salton Sea National Wildlife Refuge. A sacred lands search from the NAHC (2010) did not identify any sensitive Native American cultural resources in the study area. A records search from the South Coastal Information Center of the California Historic Records Information System showed that part of the study area was previously surveyed and that two prehistoric sites and seven historic sites are in or immediately adjacent to the area. Table 3.5.2 identifies the types of sites that were found; as indicated, their eligibility for inclusion on the NRHP and/or the CRHR has not yet been determined.

Table 3.5-2 Known Cultural Resources in the Study Area

Site Identification Number	Site Type	NRHP/CRHR Eligibility
P-13-008176	Prehistoric	Not Determined
CA-IMP-902	Prehistoric Trail	Not Determined
CA-IMP-3251-H	Historic/Geologic	Not Determined
CA-IMP-3254-H	Historic/Geologic	Not Determined
CA-IMP-3256-H	Historic/Geologic	Not Determined
CA-IMP-3257-H	Historic/Geologic	Not Determined
CA-IMP-3258-H	Historic/Geologic	Not Determined

Table 3.5-2 Known Cultural Resources in the Study Area		
Site Identification Number	Site Type	NRHP/CRHR Eligibility
CA-IMP-3284-H	Historic Wagon Track	Not Determined
CA-IMP-8395	Historic Well	Not Determined

3.5.4 Impacts and Mitigation Measures

3.5.4.1 Impact Analysis Methodology

Impacts on cultural resources were analyzed through consideration of the proximity of ground-disturbing Project activities to known cultural resources, as well as the potential for impacts on undiscovered resources given the sensitivity of the study area.

3.5.4.2 Thresholds of Significance

Significance Criteria

The significance criteria listed below are derived from the State CEQA Guidelines section 15064.5 and Appendix G, as well as the criteria of adverse effects listed by 36 CFR section 800.5. The criteria were used by the California Natural Resources Agency and the Corps to determine the significance of the impacts of the Project alternatives on historical resources/historic properties, although significance conclusions are not expressly required under NEPA. The Corps has agreed to use the CEQA criteria presented below for purposes of this EIS/EIR. The Corps also has applied additional Federal NHPA requirements as appropriate in this EIS/EIR.

Impacts would be significant if implementation of the Project would:

1. Cause a substantial adverse change in the significance of a historical resource as those terms are defined in State CEQA Guidelines section 15064.5.

2. Cause damage to a unique archaeological resource pursuant to State CEQA Guidelines section 15064.5 and PRC section 21083.2, subdivision (g).

3. Disturb any human remains, including those interred outside formal cemeteries.

4. Have the potential to eliminate important examples of the major periods of California history or prehistory.

In addition to the above CEQA requirements, the Corps must comply with NHPA section 106 and assess impacts on historic properties based on its definition of adverse effect. Under the NHPA and NEPA, cultural impacts would be significant if the Project would adversely affect a historic property by altering the characteristics that qualify the property for inclusion on the NRHP in a manner that would diminish the integrity of the property (36 CFR section 800.5; 40 CFR section 1508.27, subdivision (b)). Therefore, impacts would also be considered significant if implementation of the Project would:

5. Adversely affect a historic property by altering the characteristics that qualify the property for inclusion on the NRHP in a manner that would diminish the integrity of the property.

Integrity is the ability of a property to convey its significance, based on its location, design, setting, materials, workmanship, feeling, and association. Adverse effects can be direct or indirect. They include

reasonably foreseeable impacts that may occur later in time, be farther removed in distance, or be cumulative ((36 CFR section 800.5).

Application of Significance Criteria

A summary of the overall methodology used in applying the significance criteria to the Project alternatives follows.

- **Change the significance of a historical resource, damage a unique archaeological resource, disturb any human remains, eliminate important examples of the major periods of California history or prehistory, or adversely affect a historic property** – Construction activities would have the potential to affect both known and undiscovered cultural resources both in upland areas and those that are currently submerged and cause effects listed under each of the significance criteria.

3.5.4.3 No Action Alternative

A potential exists for significant unknown archaeological and historical materials, including human remains, to be present under the currently submerged areas of the Salton Sea. The reduction in water surface elevation that would occur over time could expose these resources, which would then be subject to wave- and/or wind-induced erosion. The potential for the unauthorized collection of artifacts also would increase. Ground-disturbing activities associated with the construction of facilities such as desert pupfish channels and the relocation of recreational facilities as the Salton Sea recedes also has the potential to affect cultural resources in the general Project area.

3.5.4.4 Alternative 1 – New River, Gravity Diversion + Cascading Ponds

Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties (significant impact). None of the proposed activities under Alternative 1 would be located in the vicinity of known cultural resources. Therefore, no direct impacts on known cultural resources would occur as a result of construction of this alternative. The Project would be located in an archaeologically sensitive area, however, and construction activities could encounter cultural resources or human remains associated with the area's historical occupation by both Native Americans and Euroamericans. Such impacts on those resources could be significant under significance criteria 1, 2, 3, 4, and/or 5.

Mitigation Measures

MM CR-1: Prepare and implement a survey plan and an inadvertent discovery plan. A plan for the survey of Project areas not previously surveyed would be prepared to facilitate identification of cultural resources prior to initiation of ground-disturbing activities. A plan for the inadvertent discovery of cultural resources and human remains also would be prepared and would provide protocols for addressing the discovery of cultural resources and human remains including, but not limited to, monitoring; immediately halting all construction in the vicinity of a discovery; investigation of the discovery by an archaeologist that meets the Secretary of the Interior's Standards and Guidelines for Professional Qualifications in order to evaluate the eligibility of the resources pursuant to CRHR and NRHP criteria; and implementation of California Health and Safety Code section 7050.5, CCR section 15064.5(d) and (e), and, if applicable, 36 CFR part 800.13. Resources considered significant would be avoided or subject to a data recovery program. The data recovery program would be designed in consultation with appropriate state (i.e., Office of Historic Preservation) and Federal agencies and include excavation of an archaeological site to recover any buried artifacts or other data.

Residual Impact

Implementation of MM CR-1 would reduce potential impacts on unknown cultural resources and inadvertently discovered human remains to a less-than-significant level because significant resources would be identified and either avoided or subject to a data recovery program that complies with regulatory agency requirements.

3.5.4.5 Alternative 2 – New River, Pumped Diversion

Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties (significant impact). The discussion under Alternative 1 is applicable to this alternative. MM CR-1 also is applicable to this alternative and would reduce this impact to less than significant.

3.5.4.6 Alternative 3 – New River, Pumped Diversion + Cascading Ponds

Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties (significant impact). The discussion under Alternative 1 is applicable to this alternative. MM CR-1 also is applicable to this alternative and would reduce this impact to less than significant.

3.5.4.7 Alternative 4 – Alamo River, Gravity Diversion + Cascading Pond

Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties (significant impact). The discussion under Alternative 1 is applicable to this alternative. MM CR-1 also is applicable to this alternative, and would reduce this impact to less than significant.

3.5.4.8 Alternative 5 – Alamo River, Pumped Diversion

Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties (significant impact). The discussion under Alternative 1 is applicable to this alternative. MM CR-1 also is applicable to this alternative and would reduce this impact to less than significant.

3.5.4.9 Alternative 6 – Alamo River, Pumped Diversion + Cascading Ponds

Impact CR-1: Ground-disturbing activities could change the significance of historical resources, damage unique archaeological resources, disturb human remains, eliminate important examples of the major periods of California history or prehistory, and adversely affect historic properties (significant impact). The discussion under Alternative 1 is applicable to this alternative. MM CR-1 also is applicable to this alternative and would reduce this impact to less than significant.

3.5.5 References

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